

REMARKS

Claim 8 has been amended to overcome the outstanding § 112 rejection without narrowing the scope of the claim. Withdrawal is requested.

Claims 1-17, 31-38, 41 and 43-44 stand rejected under § 102 or § 103 on the basis of Yamanaka et al. '689. Independent claims 1, 31, 41 and 43 have been amended to overcome this rejection, and applicants respectfully traverse because the cited reference does not disclose or suggest the relationship between dynamic coercivities of each of the antiferromagnetically coupled magnetic layers, as in the independent claims as amended.

Claims 1, 31, 41 and 43 have been amended to clarify that each dynamic coercivity refers to a coercivity for a case where a time required to switch a direction of an external magnetic field is on the order of sub-nano second to approximately one nano-second order. In addition, claims 6 and 15 have been amended to clarify that each static coercivity refers to a coercivity for a case where a time required to switch a direction of an external magnetic field is on the order of seconds or greater. These amendments are fully supported by the original disclosure on page 16, line 32 to page 17, line 18 of the specification. It is believed that the definitions of "dynamic coercivity" and "static coercivity" as now recited in claims 1, 6, 15, 31, 41 and 43 further clarify the differences between the present invention and Yamanaka et al.

As acknowledged by the examiner, Yamanaka et al. is silent with regard to the relationship between the dynamic coercivities of each of the antiferromagnetically coupled magnetic layers. Therefore, the rejection under 35 U.S.C. § 102(e) should be withdrawn.

The examiner asserts that the recording medium taught in Yamanaka et al. would inherently satisfy the relationship between the dynamic coercivities of each of the antiferromagnetically coupled magnetic layers as recited in each of the independent claims 1, 31, 41 and 43. Applicants respectfully disagree for the following reasons.

First, Yamanaka et al. does not teach or even suggest “dynamic coercivity”.

Second, Yamanaka et al. does not teach or suggest the relationship between the dynamic coercivities of each of the antiferromagnetically coupled magnetic layers, as recited in each of the independent claims 1, 31, 41 and 43.

Third, merely constructing the magnetic recording medium to have the antiferromagnetically coupled magnetic layers will not result in the claimed relationship between the dynamic coercivities of each of the antiferromagnetically coupled magnetic layers. In other words, the relationship between the dynamic coercivities of each of the antiferromagnetically coupled magnetic layers as recited in each of the independent claims 1, 31, 41 and 43 is not inherent in the magnetic recording medium taught in Yamanaka et al.

As described on page 19, line 29 to page 20, line 17 of the specification, in the magnetic recording medium 15 not using the present invention, such as the magnetic recording medium of Yamanaka et al., the relationship of the static coercivities H_{c1} and H_{c2} of the ferromagnetic layer 16 and the magnetic layer 18 shown in FIG. 3 is the same as that of the magnetic recording medium 10 of the present invention described above in conjunction with FIG. 2. However, the dynamic coercivities H_{c1}' and H_{c2}' of the ferromagnetic layer 16 and the magnetic layer 18 during the magnetic field switching time

tDY has a relationship $H_{cl}' < H_{c2}'$. In other words, when the direction of the recording magnetic field of the magnetic head is switched, the magnetization direction of the ferromagnetic layer 16 having the dynamic coercivities H_{cl}' smaller than the dynamic coercivities H_{c2}' of the magnetic layer 18 is switched before the magnetization direction of the magnetic layer 18. Hence, a time (magnetization switching time) tDY2' it takes for the magnetization direction of the magnetic layer 18 to switch due to the recording magnetic field Hh2 is longer than a time (magnetization switching time) tDY1' it takes for the magnetization direction of the ferromagnetic layer 11 to switch due to the recording magnetic field Hh1. Accordingly, withdrawal of these rejections is respectfully requested.

For the foregoing reasons, applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

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